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Organizational Innovation and Value Creation in Small Technology-based Companies in Malaysia

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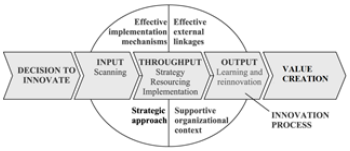
Graphical abstract



Abstract

This paper seeks to apply the resource-based view theory of organisational competitiveness based on in-depth interview, document review and observation of 13 small technology-based companies in Malaysia. Based on an exploratory study, the interplay of innovativeness and value creation as the main drivers of competitiveness within the perspective of time were studied. In addition, three types of value creation and the transition from compatitive advantage to comparative advantage were uncovered. To conclude, only a few companies were able to demonstrate capabilities to become global players in the near future. We propose that Malaysian companies embrace the concept of learning culture to be the driver for the attainment of high value added value creation and organization innovation.

Keywords: Organizational innovation; technology-based companies; value creation

1.0 INNOVATION EVOLUTION

In simple terms, innovation involves the exploitation of new ideas. Innovation is often confused with the invention as there is a difference between innovation and invention. Innovation should not be equated with the invention as an invention may not necessarily lead to innovation. This distinction has been made clear by Freeman as he notes that "an invention is an idea, a sketch or model for a new or improved device, product, process or system" whereas "an innovation in the economic sense is accomplished only with the first commercial transaction involving the new product, process, system or device…" [1]. Innovation can be given different meanings in different contexts. Essentially, the main characteristic of innovation is change. With the dynamism of the concept, it is difficult to have a common theory of innovation [2].

Innovation is the key to competitive advantage in a highly turbulent environment. It is a major driving force for economic growth and development. The ability to innovate has direct consequences leading to the ability to compete at the individual, organization, regional and national level. The values created by innovation are often manifested in new ways of doing things or new products and processes that contribute to wealth. When considering an organization as a bundle of resources, skills and competencies, the effect of innovation is to transform an organizational inner capabilities by making the organization more adaptive to learn and capable of exploiting new ideas. This enhanced flexibility is crucial in the face of changing market conditions. Thus, innovation can enhance organizational competitiveness and create more values [3].

Innovation can be given in different contexts. Essentially, the main characteristic of "physical innovation" in the operation perspectives is change, particularly with regards to product innovation and process innovation. Product innovation refers to the new or improved product, equipment or service that is successfully introduced in the market, while process innovation involves the adoption of a new or improved manufacturing or distribution process, or a new method of production.

This does not mean that the two types of innovation are mutually exclusive. Process innovation for instance may lead to product innovation. Similarly product innovation may induce innovation in processes. Further to product innovation and process innovation, there is organizational innovation. Organizational innovation can lead to more effective utilisation of human resources that are crucial to the successful exploitation of ideas. Hence, innovations can occur in three broad dimensions – product, process and organizational [4].

2.0 STUDIES ON INNOVATION

Through literatures, it appears that most researches on innovation are intensive in the area of business, while so much work needed to be done with regards to small technology-based firms [5].

Several researchers have studied the approach from a different point of view and different practices, while other authors believe that innovation is an essential characteristic of small technology-based firms that are more flexible and adoptable than the other organizations because they are not driven by the "bottom line" [3, 6].

Innovations have been studied from many different dimensions such as economics, business; technology; finance; and management. Generally, research on innovation can be studied from the individuals' perspective, organizations, and nations where it can concentrate on personal traits, managing innovation, and innovation as a source of nations' competitiveness. A review of the related literature shows that organizational level innovation studies can be categorized into four research discipline groups of innovation types, typology and contrast, the first discipline focuses on technological innovation, administrative innovation, strategic innovation, and process and product innovation [7-11]. The second discipline studied the innovation diffusion from different resources [12]. The third discipline studies the antecedents of organizational innovations such as organizational structure, internal process, and people involved in the development and marketing of new products [13]. The fourth discipline studies the relationship between innovation efforts and the organization's performance as to be found in [6, 14-16]. This study adopts the fourth discipline, i.e. to explore the best way of innovating from the organizational perspective leading to value creation s presented in Figure 1.

Implementing innovation in an organization for the purpose of improving the organizational performance is no longer the ultimate aim as the outputs in the form of learning and re-innovation, as well as value creation are of higher importance as shown in Figure 1. Devising innovative organizational measures is essential to help organizations transform good ideas and good products into higher organizational value creation.

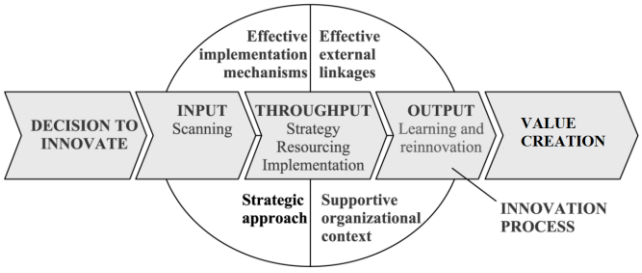


Figure 1 From innovation to value creation

It must be emphasized that all organizations should not be innovative in the same manner; several scholars have suggested that innovation needs to be directed at new products or services, new organizational structures or administrative systems, new process technologies or new programs [7, 15, 16]. In addition to the aforementioned factors, some scholars placed special emphasis on the importance of strategic innovation, and managing of the innovation because it may change the direction of the company and even the rules of the game in an industry [10, 17]. This research focuses on the management of innovation as it is the building block of value creation.

An integrative and transformative strategy theory, disruptive innovation focuses on the shake-up of existing industries and markets through innovative business model approaches [18]. Most successful companies pursue "sustaining innovation", an evolutionary strategy in which companies improve their existing products, tailoring improvements to the most profitable customer needs [19]. Often successful due to revolutionizing an industry, the leaders continue on the same path to success and "miss the next great wave of industry growth". Most would rather follow a proven path and borrow or copy the path taken by others who succeed. Pursuit of such a path of least resistance "makes a market ripe for upstart companies seeking to introduce innovations – cheaper, simpler, more convenient products or services" that revolutionize the industry [21]. Such disruptive innovations result in industry transformation and are due to innovative business models, not just innovative products [22]. Examples include the discount retail industry and the airline industry in which Wal-Mart and Southwest Airlines are notable disruptive innovators. This transformative strategic approach involves innovation in four key business elements that establish a business model, including the customer value proposition, the profit formula, key resources, and key processes [22].

■2.0 VALUE CREATION

There are two measures of value creation, from the perspectives of both the customers and investors. From the customer's perspective, value creation entails making products and providing services that customers find to be satisfactory and consistently useful while creating value for investors means delivering consistently high returns on their capital [23]. For some companies which excel in creating high levels of customer delight (a higher level of satisfaction), they have the ability to create higher tangible and intangible values

The researchers believe that value of products and services today is based more and more on creativity – the innovative ways that they take advantage of new materials, technologies and processes particularly to create innovation out of the R&D lab and mainstream it.

Based on previous studies there are two distinct causal mechanisms for explaining how firms create economic rents; resource picking and capability building [24]. Under the resource picking mechanism, managers gather information and analysis to outsmart the resource market in selecting resources. Under the capability building perspective, managers design and construct organizational systems to enhance the value creation potential of whatever resources the firm acquires.

Identification on resource picking and capability building constitutes a stronger theoretical foundation for understanding value creation than the popular "chain" metaphor [25]. However Hunt and Morgan suggest that limiting the process to two types of activities fails to capture all of the opportunities and responsibilities of managers in the customer value creation process [25]. These authors present a model consisting of five stages, the first two of which subsume Makadok's resource picking and capability building mechanisms [24]. The five stages/dimensions are depicted in Figure 2.

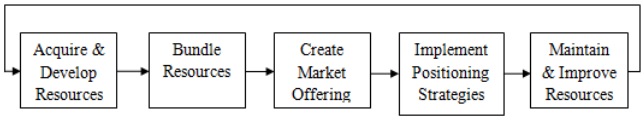


Figure 2 R-A model of value creation [25]

This model of firm value creation shares affinities with a broad array of key literatures in strategy, especially those relating to the dynamic processes through which firms learn and compete via unique competences. Specifically, the first two stages of Hunt and Morgan's R-A Model of Value Creation; resource acquisition

and develop meant and resource bundling, are classified as competence building. Next are the two knowledge exploitation activities; creating the market offering and developing and implementing positioning strategies, which these processes are categorized as competence leveraging [25]. The final process is maintaining and improving resources which were categorized as competence renewal.

3.0 METHODOLOGY

A series of in-depth interviews were conducted at the premise of 13 small-sized technology-based companies with less than 50 employees from 26 August till 12 September 2013. The interview was part of an exploratory study that seeks to reaffirm how organizational innovation create value creation based on reviews of selected documentations (such as historical records of the companies, audited reports and certifications attained) as well as by observing the operation and production processes of the companies visited. As part of the research ethics to protect the identity of the companies, codes were given for each company based on the time of the visit, for example the first and last company would be Companies A and M respectively.

Grounded in the resource-based view of the firm, which argues that organizational resources or assets are bundled together interdependently in order to create values especially with respect to technology based companies in Malaysia [26]. Strategic management researchers operating within the resource-based view of the firm have recognized that internal stakeholders such as top management may be in a position to appropriate rents or values associated with resource-based competitive benefits [28-30]. However, most studies using resource based view are focussed on big corporations and are quantitative in nature, making this study, which applied a qualitative instrument, i.e. in-depth interview, to assess the interplay between value creation and innovativeness, to be very relavant and timely [31,32]. Applying the resource-based view, the researchers argue that firms possess resources (technological innovation, in this study) which enable them to achieve competitive advantage, that lead to superior long-term value creation. Resources that are valuable and rare can lead to the creation of competitive advantage which can be sustained over longer time periods to the extent that the firm is able to protect against resource imitation, transfer or substitution.

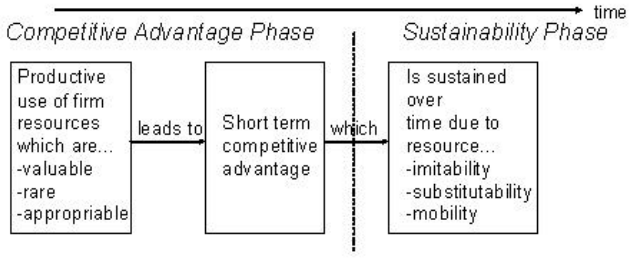


Figure 3 The resource based view over time [33]

Interview data collected were transribed following which common themes and patterns were identified using technique proposed by Miles and Huberman. The researchers followed through with the "data reduction" process of selecting, focusing, simplifying, abstracting and transforming data that appears in the reported notes (refer Figure 4). In the next stage, data display, the researchers organized and compressed assembly of available information that consents conclusion drawing [34].

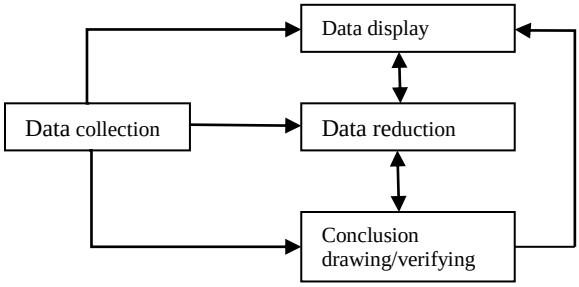


Figure 4 Data reduction technique [34]

4.0 FINDINGS

Three dominant themes on value creation and two apparent patterns of innovation were derived from the transcribed data.

4.1 Value Creation

A review of the transcribed data and the application of the Miles and Huberman Data Reduction technique indicated that most of the companies were able to create values as per the following three categories: (1) basic value creation, (2) intermediate value creation, and (3) advance value creation.

Basic value creation has little impact onto the entrepreneur, the company and the community. Among those which the researchers were able to identify, include profit (which is apparent among all of the companies albeit some companies which are now doing well while many are still struggling) and job creation (some companies demonstrate one-man show type of operation while, many are now employing between 30-50 workers and a few have more than 100 employees). Critical basic value creation in the form of the enhancement of their internal R&D capability was demonstrated by most of the companies which were visited with the exception of most of the symbiosis companies. The final value creation is the direct benefit given to customers based on the services or products provided by the companies. Among the notable mentions include Artificial Insemination (AI) services for bovine rendered by Company A and high fibre biscuits for diabetics by Company B.

Intermediate value creation has more impact onto the entrepreneur, the company and the community. In most cases, the companies are able to create intermediate value creation demonstrate high levels of perseverance and resilience, and are fronted by seasoned entrepreneurs. Impacts created include having the ability to penetrate the overseas market (e.g Company C to Indonesia and Thailand, Company D to Europe, Company E to China, Turkey and Kazakhstan, Company F to China, Company G to Indonesia, Brunei and Saudi Arabia). To achieve this level, we discovered that these companies managed to obtain global certification such as HACCP, GMP and ISO9000 as well as Halal status as in the case of Company F, Company H, Company C and Company G). In addition, some of the entrepreneurs are now acknowledged as experts by the government in key research areas as in the case of Company A's founder who is an expert in AI for bovine (albeit the background of the entrepreneur is in Geology), Company C's Group CEO for her expertise in biotechnological areas related to microbes and enzymes, and the founder of Company D for his extensive knowledge in orchid propagation using tissue culture. It is interesting to point out that Company C had successfully conducted Beneficial Microbes Symposium in 2012. Finally, a unique form of intermediate value creation was experienced by several companies in the form of "involuntary formation" of spin

off companies by former staff of the companies who have acquired sufficient skills, experience and network to venture on their own as in the case of Company C and Company G.

4.2 Innovativeness

The researchers wer able to plot the S-curve based on the evidence of technological innovation practices of the 13 companies (refer Figure 5). A typical S-curve (also known as the industry life cycle in the marketing discipline) for most technology-based companies which comprise of five innovation stages over time: research and development (R&D), introduction, growth, maturity and decline over time. At the introduction stage, most of the companies demonstrate the ability to apply competitive advantage strategy by deploying the technology that they have developed as their main deterent as evident by all 13 companies. The technology that has been protected by intellectual property (e.g., patent, copyright and industrial design) will ensure that their technical strength will become their sole competitive advantage strategy. Initially, the workforce becomes more skilled for the incumbent whilest the competitors will face a steep learning curve to be on par with the incumbent. Over time, and as the industry matures, technology diffusion will occur as the competitors will also develop similar if not better technologies. At this juncture, technology proliferation has occurred and most of the players in the industry will have similar technology platforms accordingly. As such, to compete effectively, the "best" companies will develop comparative advantage strategies by applying superior management practices in areas such as cost control, delivery excellence, quality control mechanisms and better people skills than the other players in the same industry. The researchers feel that only a few companies such as Company C and Company I have been able to reach this level (comparative advantage). These companies demonstrate ability to stand out among the other local companies and set standards for others to follow.

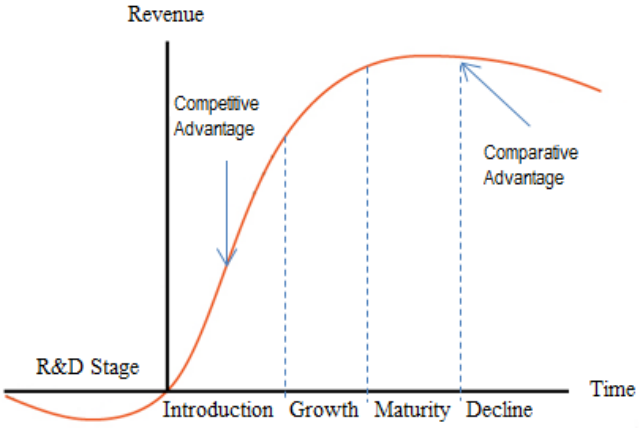


Figure 5 Transition from competitive to comparative advantage

5.0 CONCLUSION

Expressed literatures have critically explained the importance of organizational innovation in creating values to technology-based firms. The concept of innovation is widespread across the globe ad has been implemented through many phases including individually, organizationally or internationally. This research focuses on explaining the common innovation practices in small technology-based firms in Malaysia and how they use these practices to create value.

Our preliminary study indicates that over time, the technology-based companies will acquire higher level of innovations which will enable them to create more values from both the customers and stakeholders' perspectives. It is disheartening to note that only a few companies demonstrate capability to continuously improve their innovation capapbilities. These companies have the ability to migrate from competitive advantage to comparative advantage strategies.

We conclude that the resource-based theory of organisational competitiveness are evident albeit among a few small technology-based companies in Malaysia suggesting that these small companies' underlying unique competitive advantage could be enhanced if they seek to become learning organizations. Empirical researches are still needed to dig deeper in the relation between the different types of innovation and the various categories of value creation.

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